

ABSTRACT OF THE DISCLOSURE

A film deposition apparatus equipped with a vacuum chamber, comprising a pair of rollers for vertically traveling a continuous sheet as a substrate, and a pair of sputtering cathodes for continuously depositing the film on the surfaces of the sheet in the vacuum chamber. The cathodes are vertically arranged and horizontally faced each other. The sheet is traveled between a pair of the cathodes. The apparatus and the film deposition process using it make it possible to deposit a film even on surfaces of a flexible sheet without causing problems such as defective film deposition or abnormal discharge, while ensuring stable, continuous, long-term operation.